U.S. Department
of Transportation
**Research and
Special Programs
Administration**

400 Seventh St., S.W.
Washington, D.C. 20590

**IAEA CERTIFICATE OF COMPETENT AUTHORITY
SPECIAL FORM RADIOACTIVE MATERIALS
CERTIFICATE NUMBER USA/0619/S, REVISION 1**

This certifies that the sources described have been demonstrated to meet the regulatory requirements for special form radioactive material as prescribed in the regulations of the International Atomic Energy Agency[1] and the United States of America[2] for the transport of radioactive materials.

1. Source Identification - AEA Technology QSA, Inc. Model Numbers XN146 and AXN146.

2. Source Description - Both models are a cylindrical single encapsulation made of stainless steel with a stainless steel end cap and tungsten inert gas or laser seal welded. Approximate outer dimensions of both models are 6.1 mm (0.24 in.) in diameter and 7.2 mm (0.28 in.) in length. Minimum wall thickness on both models is 0.65 mm (0.026 in.). Construction shall be in accordance with attached AEA Technology QSA, Inc. Drawing Number RBA10623, Rev. B.

3. Radioactive Contents - No more than either 3.7 GBq (0.1 Ci) of Americium-241 or 18.5 GBq (0.5 Ci) of Californium-252. The Am-241 is in oxide form and mixed with Beryllium powder and pressed into a solid pellet. The Cf-252 is in solid metal wire or ceramic form.

4. Quality Assurance - Records of Quality Assurance activities required by Paragraph 310 of the IAEA regulations[1] shall be maintained and made available to the authorized officials for at least three years after the last shipment authorized by this certificate. Consignors and consignees in the United States exporting or importing shipments under this certificate shall satisfy the requirements of Subpart H of 10 CFR 71.

5. Expiration Date - This certificate expires March 10, 2008. On August 15, 2003, this certificate supersedes, in its entirety, all previously issued revisions of USA/0619/S.

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1 "Regulations for the Safe Transport of Radioactive Material, 1996 Edition (Revised), No. TS-R-1 (ST-1, Revised)," published by the International Atomic Energy Agency (IAEA), Vienna, Austria.

2 Title 49, Code of Federal Regulations, Parts 100 - 199, United States of America.

**CERTIFICATE USA/0619/S, REVISION 1**

This certificate is issued in accordance with paragraph 804 of the IAEA Regulations and Section 173.476 of Title 49 of the Code of Federal Regulations, in response to the petition and information dated June 25, 2003 submitted by AEA Technology QSA, Inc., Burlington, MA, and in consideration of other information on file in this Office.

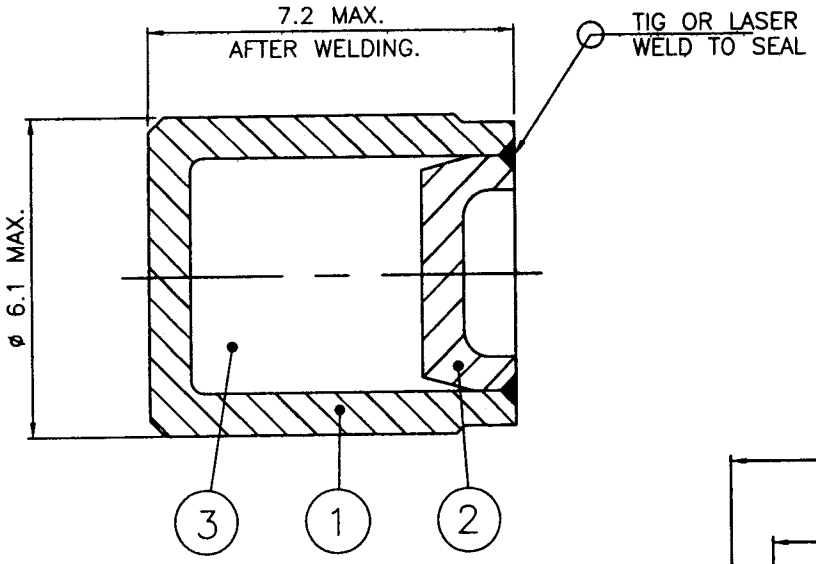
Certified by:

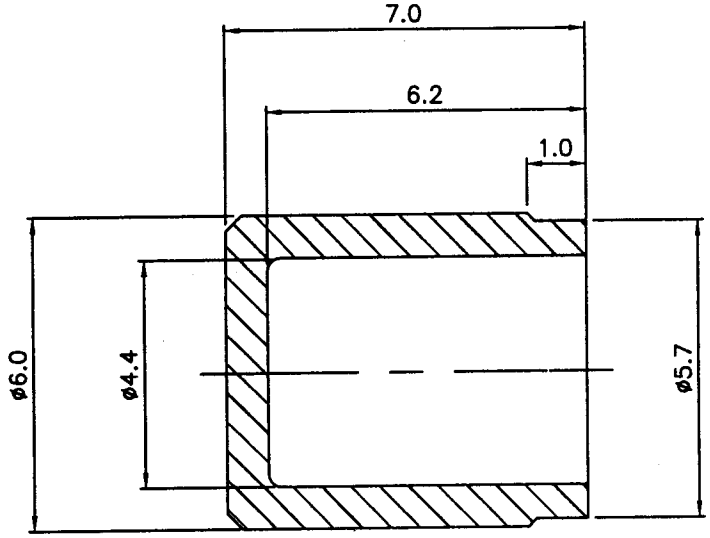
Robert A. McGuire
Associate Administrator for
Hazardous Materials Safety

AUG 14 2003
(DATE)

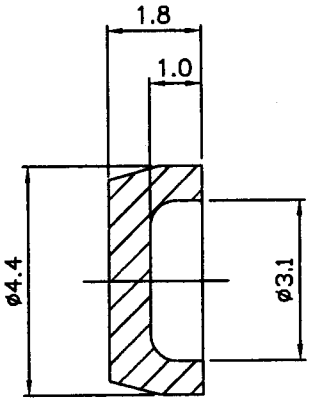
Revision 1 - Revised to incorporate additional Model Number specificity.

| Item # | Description | | Qty. |
|---|---|---|---|
| 1 | SHEATH BODY | STAIN.STL. | 1 |
| 2 | SHEATH LID | STAIN.STL. | 1 |
| 3 | ACTIVE MATERIAL | | AR |




ITEM 1




ITEM 2

| APPROVALS | |
|---|---|
| | 6 JUN 03 |
| | 11 JUN 03 |

DIMENSIONS IN MILLIMETERES
UNLESS OTHERWISE STATED TOLERANCES:

X ±0.5
X.X ±0.1
X.XX ±0.05
ANGULAR ±5°

INTERNAL N7
EXTERNAL N6

AEA TECHNOLOGY QSA
40 NORTH AVE, BURLINGTON, MA 01803

DESCRIPTIVE DRAWING

TITLE
XN146 & AXN146 CAPSULE ASSY

| SIZE | DWG. NO. | REV |
|---|---|---|
| A | RBA10623 | B |
| | SCALE: NONE | SHEET 1 OF 1 |

| ERF # | 557 |
|---|---|